



Laparoscopy in Bowel Obstruction at First Surgical Clinic of Iasi

Costel Bradea ¹, Cristian Lupascu ¹, Valentina Munteanu ¹, Delia Florina Rusu Andriesi ¹, Delia Ciobanu ², Alin Vasilescu ¹

¹ First Surgical Clinic, "St. Spiridon" Hospital, Iași

² Pathological Anatomy and Prosecution Service "Prof.Dr.Gioconda Dobrescu" County Emergency Hospital St. Spiridon Iasi

Abstract.

Background. There are two entities for intestinal obstruction: acute - in emergency department, and chronic - in private practice, seen by several physicians, with previous surgery interventions and multiple adhesions. **Material and method:** retro/prospective study of cases cohort operated in the last 5 years (2016-2020) in The First Surgical Clinic of Iasi with intestinal/colonic obstructed neoplasia by laparoscopy and classical approach. **Results:** we found 985 cases with occlusion (7.15% from total number of operations): 454 (46%) were tumoral, 531 (54%) were nontumoral; 72 (7.3%) cases were operated by laparoscopy; the mean age was 80y for classic operations and 70y for laparoscopy without difference between tumoral and nontumoral; predominant sex was men (60%); laparoscopic approach was utilised in 60 cases for tumoral occlusion, 12 for nontumoral occlusions. ASA II and III were predominant with comorbidities: cardiac (60%), hepatic (40%), anemia (30%), pulmonar (20%) and others (80%); postoperative morbidity was local (20%) and general (20%); mortality was 10%; hospitalisation was 10 days; most of the tumors were in T3G2 stage; the resection was R0 with 20 lymph nodes excised. **Discussion:** for assessment of the patient status is necessary to evaluate the history, physical examination, abdominal distension degree, cardio-pulmonary and haemodynamic status, paraclinical electrolytes, creatinine and amylases, abdominal echo, Tx and CT-scan. For laparoscopic approach may be some contra indications: arterial hypotension, multiple laparotomies (hostile abdomen), massive abdominal distension, high obesity, third semester pregnancy and intracranial hypertension. It is necessary to stabilise the patient by: iv hydrating, infusions of electrolytes, decompression of the intestine, informed consent around laparoscopic/classic operative risks and benefits, possibility of bowel resection and stomy. The surgeon must be able to know to explore all the spaces of the entire abdomen and the entire bowel and to resect/make the anastomosis or stomy, classical or laparoscopic. If we start with laparoscopy and we find perforation, necrosis, neoplasia, adhesions or the cause of occlusion is not found, it is necessary to make a laparotomy. Levard (France), Chosidow (Switzerland), Navez (Belgium), Bailey (Australia) and Strikland (USA) found 33% conversion from laparoscopy to classical approach, 15% morbidity and 1.5% mortality in their cohorts cases with bowel obstruction. **Conclusion:** Laparoscopy may be utilised in bowel obstruction because we may avoid 50% of laparotomies. The technique is in evaluation, it is safe in trained hands if we select very well the patients and the team.

Key words: bowel obstruction, laparoscopy, conversion.

Introduction

Our experience in classical and laparoscopic surgery in chronic abdominal diseases, have given us the courage to approach the intestinal occlusion. Shy, but sure, we have developed the laparoscopic approach. The general and local preparation of the patient with intestinal occlusion is very important.

Material and method

We studied the files of patients operated in First Surgical Clinic of Iasi for intestinal occlusion in the period 2016-2020.

Laparoscopy was used in cases with medium occlusion, intestinal diameter less than 5 cm, without multiple laparotomies, with average

*Corresponding author: Delia Florina Rusu Andriesi.

E-mail: rfdelia@yahoo.com

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general condition, without hypovolemic shock, especially if they had a CT image of colorectal neoplasm.

I started with the Hasson open laparoscopy approach in an area at least 10 cm from a pre-existing laparotomy. I did the laparoscopic inspection and dissection on the entire intestine. Otherwise, I did the conversion.

For colorectal neoplasia, I began resection with dissection and resection of the

meso with Liga sure forceps. Then I sectioned with the laparoscopic linear stapler below the colorectal line. and I left the stoma there.

Results

We found 985 cases with bowel obstruction (7.15% from total number of operations): 454(46%) were tumoral, 531(54%) were nontumoral. (Fig.1)

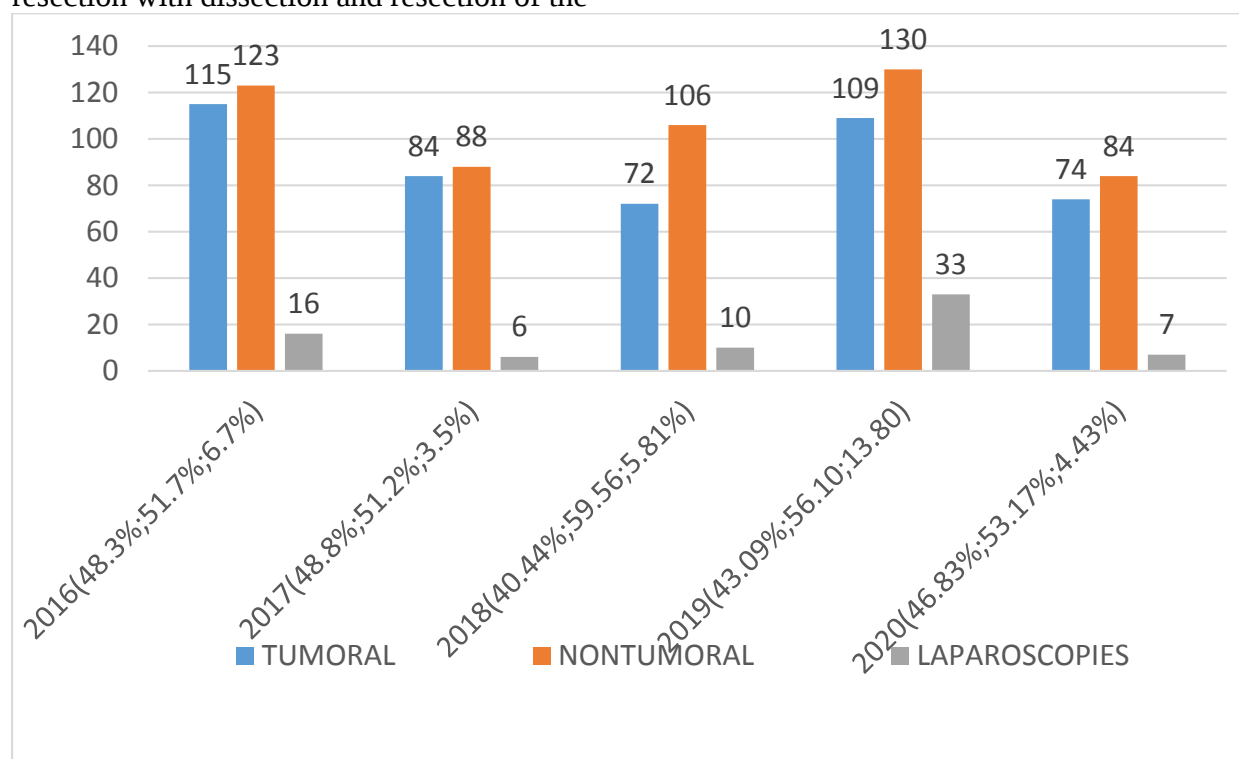


Fig.1-Bowel obstructions at First Surgical Clinic Iasi(2016-2020y)

Malignant tumours were in: small intestine, right, transvers, left, sigmoid and rectum.

Benign lesions were: strangulated hernias, adhesences, sigmoid volvulus and biliary ileus.

72 (7.3%) cases were operated by laparoscopy, 60 for malignancy and 12 for benign lesions.

The mean age was 80y for classic operations and 70y for laparoscopy, without difference between tumoral and nontumoral.

Predominant sex was man (60%).

Laparoscopic approach was utilised in 60 cases for tumoral occlusion, 12 for nontumoral bowel obstructions. (Fig.2)

ASA II and III were predominant with comorbidities: cardiac (60%), hepatic (40%), anaemia (30%), pulmonary (20%) and others (80%).

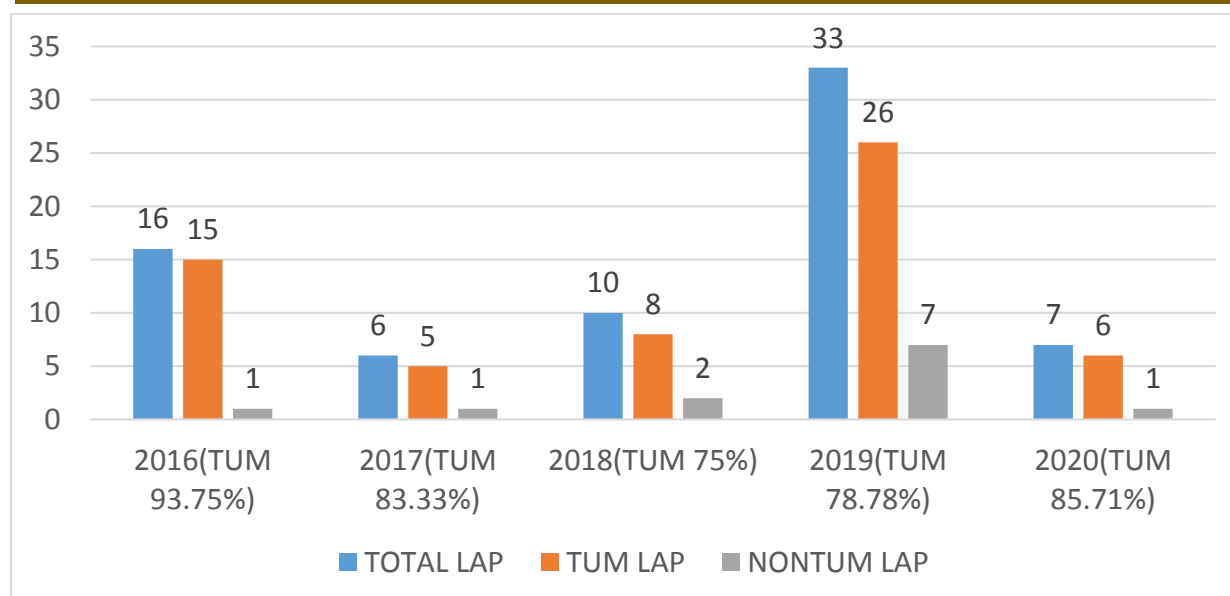


Fig.2-Laparoscopic approach for bowel obstruction at First Surgical Clinic Iasi (2016-2020 y)

Postoperative morbidity was local (20%) and general (20%). Mortality was 10%. Hospitalisation was 10 days. Most of the tumours were in T3G2 stage.

The resection was R0 with 20 lymph nodes excised. (Fig.3-6)

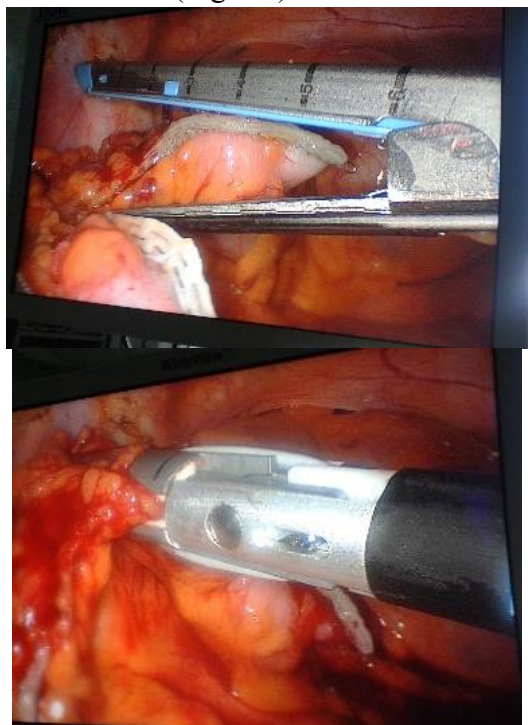


Fig.3-6-Laparoscopic Hartmann operation.

Discussion

The current trend is to give the patient the chance to be curatively operated even in an emergency if the general and local condition allows it.

It also tends to reduce operative trauma. It improves the quality of life postoperatively: reducing pain, rapid resumption of intestinal transit, reducing wound infections, reducing hospitalization and early resumption of activity at home and at work.

Laparoscopy offers such advantages. Laparoscopy can also specify the location of the occlusion and can guide the laparotomy.

(1)

For assessment of the patient status with bowel obstruction, it is necessary to evaluate the historic, physical examination, abdominal distension degree, cardio-pulmonary and haemodynamic status, paraclinical electrolytes, creatinine and amylases, abdominal echo, TX and CT-scan.

For laparoscopic approach may be some contraindications: arterial hypotension, multiple laparotomies (hostile abdomen), massive abdominal distension, high obesity, third semester pregnancy and intracranial hypertension. (2)

It is necessary to stabilise the patient by: iv hydrating, infusions of electrolytes, decompression of the intestine, informed consent around laparoscopic/classic operative risks and benefits, possibility of bowel resection and stomy.

The surgeon must be able to know to explore all the spaces of the entire abdomen and the entire bowel and to resect/make the anastomosis or stomy, classical or laparoscopic.

If we start with laparoscopy and we find perforation, necrosis, neoplasia, adhesences or the cause of occlusion is not found, it is necessary to make a laparotomy. Levard (France), Chosidow (Switzerland),

Navez (Belgium), Bailey (Australia) and Strikland (USA) found 33% conversion from laparoscopy to classical approach, 15% morbidity and 1.5% mortality in their cohorts' cases with bowel obstruction. (3)

Navez found at 151 cases with bowel obstruction only 70% with surgical treatment; 65% had adhesences; 33% were treated laparoscopically. He recommends Hasson approach, sharp dissection, attention at bowel grasping and conversion in doubt. He agrees laparoscopic approach if the intestinal diameter is less than 5 cm, if it is one lesion, proximal, with mild distension, without necrosis or peritonitis. (4)

Kim S, M, in a study with 117 cases of bowel obstruction, found good laparoscopic diagnosis in 98%; 31 were treated by laparoscopy (laparoscopic adhesiolysis). Postoperative hospital stay were significantly shorter in the LS group. The complication ($p=0.249$) and recurrence rate ($p=0.679$) were similar between the two groups open and laparoscopic. (5, 6, 7).

For unstable or transportable from ICU to OR, laparoscopy gives better accuracy than CT scan, is less invasive than laparotomy, determines when to move the patient to OP room and put diagnosis in 95% of cases

Postoperative laparoscopies may be used after 3-15 days for occlusion because: perforation, anastomotic fistulas, intraabdominal collections and foreign bodies (Rosh 14 cases in 4 y).

In chronic bowel obstruction, we mark the patient skin where is the pain, we explore the entire abdomen, the entire bowel by inspection and palpation, look for acute appendicitis and colorectal cancer.

Conclusion

At First Surgical Clinic Iasi there is hope for minimally invasive treatment. Laparoscopy may be utilised in bowel obstruction because we may avoid 50% of

laparotomies. The technique must to be evaluated; it is safe in trained hands if we select very well the patients and the team.

Conflict of Interest. Authors have no conflict of interest to disclose

Ethical issues. The study was approved by the Ethics Commission of the University Hospital „St. Spiridon” Iași

References:

1. Miller, G, Boman, J, Shrier, I, and Gordon, PH. Natural history of patients with adhesive small bowel obstruction. *Br J Surg.* 2000, 87, 1240-1247.
2. O'Connor, DB, and Winter, DC. The role of laparoscopy in the management of acute small-bowel obstruction: a review of over 2000 cases. *Surg Endosc.* 2012, 26, 12-17.
3. Byrne, J, Saleh, F, Ambrosini, L, Quereshy, F, Jackson, TD, and Okrainec, A. Laparoscopic versus open surgical management of adhesive small bowel obstruction: a comparison of outcomes. *Surg Endosc.* 2015, 29, 2525-2532.
4. Navez B, Arimont J.M, Guiot P . Laparoscopic approach in acute small bowel obstruction. A review of 68 patients. *Hepatogastroenterology.* 1998 Nov-Dec;45(24):2146-50. PMID: 9951882.
5. Kim, SH, Kim, BS, Kim, YH, and Choi, SI . The Feasibility of Laparoscopic Surgery in the Management of Small Bowel Obstruction. *JMIS* 2018, 21 (2), 75 - 81.
6. Levard, H, Boudet, MJ, and Msika, S . Laparoscopic treatment of acute small bowel obstruction: a multicentre retrospective study. *ANZ J Surg.* 2001, 71, 641-646.
7. Wiggins, T, Markar, SR, and Harris, A. Laparoscopic adhesiolysis for acute small bowel obstruction: systematic review and pooled analysis. *Surg Endosc.* 2015, 29, 3432-3442.